**Stat and Data Analysis Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7.1 Simulations**

**Random =**

**Probability =**

**Simulation =**

**Writing instructions for simulations:**

**Example: Tony Gwyn Experiment:**

**Examples:**

A baseball player gets a hit in 30% of his at-bats. Simulate him coming to bat 12 times.

1. Identify the outcomes and their probabilities
2. Decide on your generator and assign the events to the generator
3. What is your response variable? Create a table to record
4. What is one trial? How many trials?

Picking a card and looking at the suit. Simulate 10 picks.

1. Identify the outcomes and their probabilities
2. Decide on your generator and assign the events to the generator
3. What is your response variable? Create a table to record
4. What is one trial? How many trials?

A certain Stat class has 46% males in the class. Simulate the teacher picking 8 students at random and recording their gender.

1. Identify the outcomes and their probabilities
2. Decide on your generator and assign the events to the generator
3. What is your response variable? Create a table to record
4. What is one trial? How many trials?

A spinner has 4 sections: 50% Red, 13% Blue, 12% Green, 25% Yellow. Simulate spinning the spinner 20 times.

1. Identify the events and their probabilities
2. Decide on your generator and assign the events to the generator (numbers)

Back to the baseball player who gets a hit 30% of the time. Assume he gets on average 3 at-bats per game. Simulate 15 games, recording the number of hits per game.

1. Identify the outcomes and their probabilities
2. Decide on your generator and assign the events to the generator
3. What is your response variable? Create a table to record
4. What is one trial? How many trials?

Back to the stat class… it consists of 46% males. A teacher needs to pick a group of 3 students. What is the chance that she gets all 3 males? Simulate 5 times to make your decision.

1. Identify the outcomes and their probabilities
2. Decide on your generator and assign the events to the generator
3. What is your response variable? Create a table to record
4. What is one trial? How many trials?
5. Use the following section of the table to perform the simulation:

04592 32952 29485 23947 59602 18375 10395 10934 59606 13487 23498 13284 23487 34857 21089

82973 42938 47589 27459 84275 87647 62097 45872 48755 61324 90480 19438 70648 75139 81457

Picking a card, and looking at the suit. We want to pick cards until we get a HEART. How many cards will we need to pick? Do 5 trials.

1. Identify the outcomes and their probabilities
2. Decide on your generator and assign the events to the generator
3. What is your response variable? Create a table to record
4. What is one trial? How many trials?
5. Conduct the simulation using the section of the TRD below, recording your results in your table above

10984 37576 41509 87140 98755 09671 92843 76098 27435 09871 23875 09821 36458 20974 35098

21643 98750 43275 98236 49726 59810 98473 19863 47563 20497 25098 65276 81943 65726 43584

23460 27069 81734 50961 09745 89174 39865 32498 67298 34657 18643 75980 96424 08864 08862